Naval Air Station Brunswick

SITES 4, 11, 13 PROPOSED PLAN

Introduction

In accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the law more commonly known as Superfund, this Proposed Plan summarizes the Navy's preferred option for soil and groundwater at Sites 4, 11, and 13 at Naval Air Station Brunswick (Figure 1). These sites are three of 17 sites being addressed by the station's Installation Restoration Program (IRP). The IRP is being conducted to identify and clean up sites created by past operations that do not meet today's environmental standards.

This Proposed Plan recommends no further action for soils at Sites 4, 11, and 13, and a final **remedial action** for the **groundwater operable unit**, known as the Eastern **Plume**, associated with those source areas (Figure 2). The Eastern Plume groundwater contamination will continue to be treated using an active extraction/treatment system which began operating in May 1995. The groundwater component of this Proposed Plan is identical to that specified in the June 1992 Eastern Plume Interim **Record of Decision (ROD)**.

The Cleanup Proposal...

After careful study of Sites 4, 11, and 13, the Navy proposes the following plan:

- ❑ Continued operation of the groundwater extraction and treatment system installed in 1995
- ❑ No source removal actions proposed based on previous actions taken
- ❑ Long-term monitoring and evaluating additional monitoring locations at Sites 4, 11, and 13
- ❑ Five-year Reviews
- ❑ Contingency for investigating beneath Building 584 should it be removed.

Technical terms shown in bold print are defined in the glossary on Page 5.

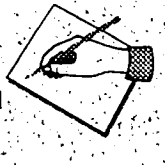
What Do You Think?

The Navy is accepting public comment on this proposal from October 11 to November 9, 1996. You do not have to be a technical expert to comment. If you have a comment or concern, the Navy wants to hear it before making a final decision.

There are two ways to formally register a comment:

1. Offer oral comments during the October 17 public meeting, or
2. Send written comments, postmarked no later than November 9, 1996 to:

Fred Evans
Code 1823/FE
Naval Facilities
Engineering Command
10 Industrial Highway
Mail Stop 82
Lester, Pennsylvania 19113-2090

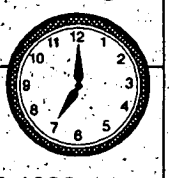


To the extent possible, the Navy will respond to your oral comments during the October 17 public meeting. In addition, regulations require the Navy to respond to all formal comments in writing. The Navy will review the transcript of the comments received at the meeting, and all written comments received during the formal comment period, before making a final decision and developing a written response to the comments called a **Responsiveness Summary**.

Learn More About the Proposed Plan

The Navy will describe the proposed plan and hear your questions and concerns at an informational public meeting.

Public Meeting



Time: 7:00 pm
Date: Thursday
October 17, 1996
Location: Town Meeting Room
Old Brunswick High School
off McKeen Street
Brunswick, Maine

For further information on the meeting, call Mr. John James at the Naval Air Station Brunswick Public Affairs Office, (207) 921-2527.

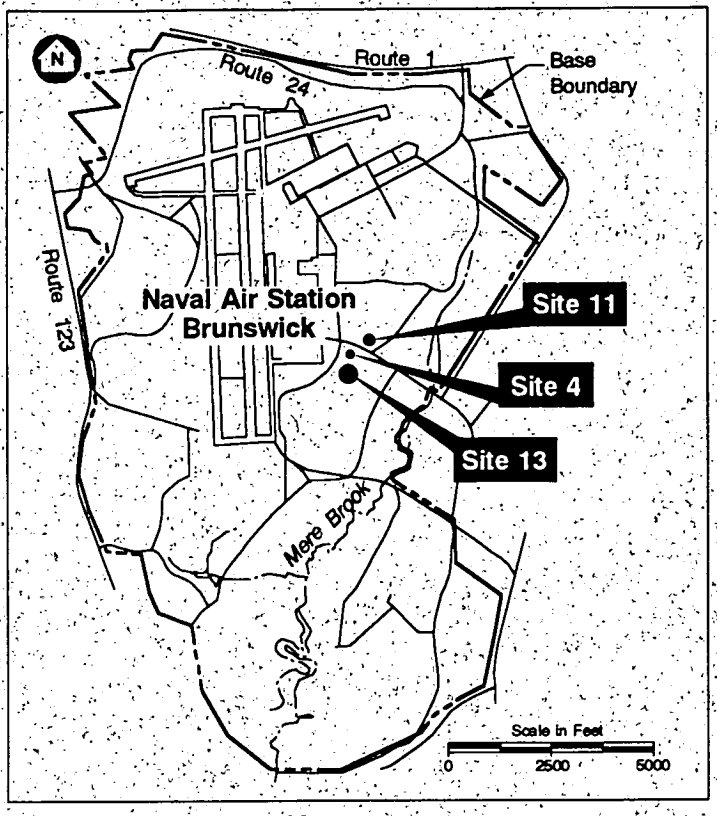


Figure 1: Site Location Map.

History

Sites 4, 11, and 13 are all located within several hundred feet of each other off Old Gurnet Road between the intersection of Orion Street and Sandy Road (Figure 3). Site 4, the Acid/Caustic Pit is currently located under the eastern portion of Building 584. The pit was used from 1969 to 1974 for the disposal of liquid wastes. The wastes were poured into the pit, which was approximately 4 feet square and 3 feet deep.

Site 11 is a former Fire Training Area that was used regularly over a 30-year period but has not been used since the fall of 1990. Waste liquids (fuels, oils, degreasing solvents) were used as fuel for the fire training exercises.

Site 13 is the Defense Reutilization and Marketing Office (DRMO) Area immediately south of Building 584 and Site 4. Site 13 consisted of three underground storage tanks: one for diesel fuel, the other two for storing waste fuels, oils, and degreasing solvent. All three tanks were removed in the late 1980s and replaced with one fiberglass underground storage tank for diesel fuel.

Findings of the Field Investigations

The Navy conducted field activities in 1988 - 1989 to assess the type and distribution of contamination at Sites 4, 11, 13, and the Eastern Plume. A 1990 supplemental remedial investigation addressed data gaps and included Site 11 and the Eastern Plume. A **risk assessment** evaluated the potential effects of the soil and groundwater on human health and the environment.

The investigations at these three sites included sampling and laboratory analysis of groundwater and soil. Investigations showed that subsurface soils around Site 4 were not contaminated, and groundwater was only contaminated with low levels of trichloroethylene (TCE). Based on these results, it is believed that Site 4 no longer contributes to groundwater contamination in the Eastern Plume. However because Building 584 was built on top of the former disposal area, samples were not collected from the pit. In the event that Building 584 is ever removed, the Navy will evaluate whether additional investigations are appropriate.

The most prevalent contaminants in Site 11 groundwater (i.e., 1,1,1-trichloroethane [TCA] and TCE) are consistent with the wastes and soil contamination at the Fire Training Area. Site 11 was believed to be the primary continuing **source** of groundwater contamination in the Eastern Plume.

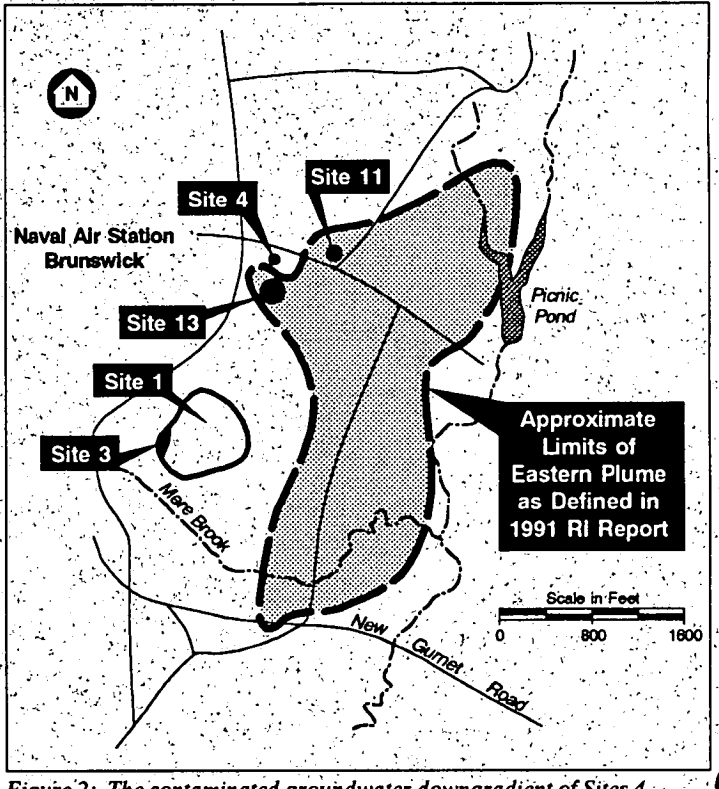


Figure 2: The contaminated groundwater downgradient of Sites 4, 11, and 13 is referred to as the Eastern Plume.

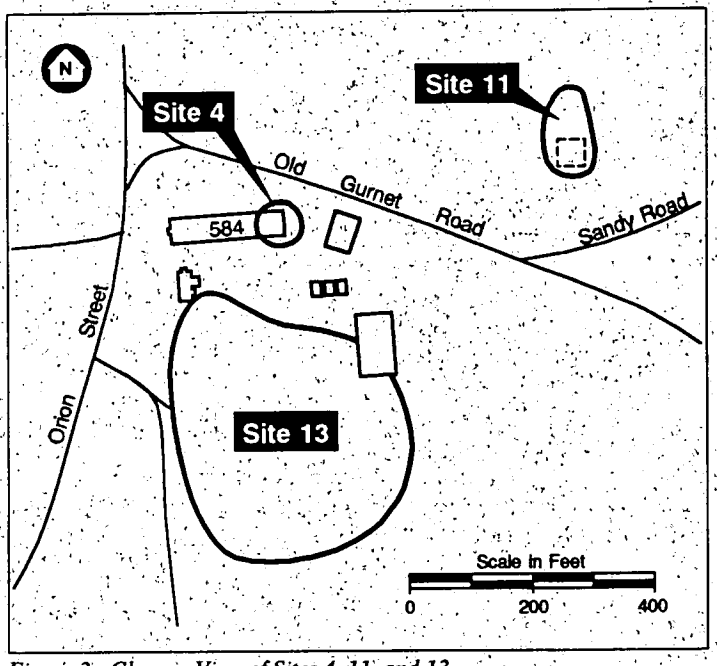


Figure 3: Closeup View of Sites 4, 11, and 13.

Groundwater sampling downgradient of Site 13 has shown decreasing volatile organic compound (VOC) contamination since removal of the tanks. The most recent groundwater samples from this area contained only low levels of contamination, indicating that Site 13 is no longer acting as a source of contamination for the Eastern Plume.

The Eastern Plume flows south toward Harpswell Cove. The Navy believes that contaminated groundwater is not flowing toward residential areas east of the base, and it is not currently discharging to or impacting any surface water bodies. Additional investigations are currently planned near the eastern boundary of the plume to verify this conclusion. The southern limit of the plume is believed to be in the vicinity of New Gurnet Road. The predicted discharge zone for the Eastern Plume, the tidal area where Mere Brook flows into Harpswell Cove, is approximately 750 feet away from the southern extent of the Eastern Plume. Based on groundwater modeling, the plume was predicted to reach the discharge zone as soon as 1997; however, the Navy implemented an **interim remedial action** in May 1995 to prevent the plume from reaching Harpswell Cove.

Remedial Actions Implemented by the Navy

In 1992, the Navy prepared a **Feasibility Study (FS)** that evaluated remedial options for Sites 4, 11, and 13. After consulting with the U.S. Environmental Protection Agency (USEPA), the Maine Department of Environmental Protection (DEP) and the public, the Navy established two **remedial action** objectives for this group of sites: minimize potential human health risks associated with exposure to contaminated groundwater within the Eastern Plume; and reduce contaminant loading to groundwater from subsurface soils at Site 11. The FS then evaluated a range of potential actions that could achieve these objectives, including: restrictions on future land use, groundwater monitoring, groundwater extraction and treatment, in-place treatment of soils at Site 11, and excavation of soils at Site 11.

Since completing the FS, the Navy has taken the following actions to address these objectives.

1. *Eastern Plume Groundwater.*
   In June 1992, the Navy and the USEPA, with the concurrence of the Maine DEP, signed an Interim ROD for construction of a groundwater extraction and treatment system for the Eastern Plume. The Navy awarded a contract for construction of the system in the fall of 1994, and the extraction/treatment system was started in May 1995. The system is designed to: contain the plume (that is, prevent further movement of contaminants toward Harpswell Cove); reduce concentrations of contaminants in the portions of the plume with the highest levels; and, together with natural processes, result in the attainment of cleanup levels throughout the plume over a time period estimated to be between 13 and 71 years. When operating at full capacity, the system is projected to pump at 110 gallons per minute.

2. *Site 11 Subsurface Soils.*
   The Navy has implemented two removal actions at Site 11 since completion of the FS. The first, completed in December 1994, consisted of the excavation and removal of buried drums and metallic debris from several locations around the site. The second action was completed in June 1995, and included the removal of approximately six feet of soil from the 0.5-acre site. This soil was placed under the landfill cap that was being constructed at Sites 1 and 3 (see Figure 2). Samples were collected from the bottom of the excavation area to document the condition of the soils left in place. The excavation at Site 11 was then filled with clean soil and planted with grass.

3. *Groundwater Monitoring.*
   Beginning in March 1995, the Navy has been collecting groundwater samples at regular intervals from a network of approximately 39 monitoring wells throughout the Eastern Plume area. This long-term monitoring program is designed to measure the performance of the groundwater extraction system, and ensure that the contaminants currently in the groundwater do not continue migrating

toward Harpswell Cove. The Navy issues monitoring reports after each sampling event, and an annual report that evaluates the progress the system is making. The Navy will continue this monitoring program until it is no longer necessary, as decided in consultation with USEPA, Maine DEP, and the public.

The Navy believes that these actions have addressed the remedial action objectives for Sites 4, 11, and 13. Therefore, no further source control actions are proposed. Under the IRP, the Navy must now formally document the final decision-making process for these sites by proposing a final remedy, and obtaining concurrence from the USEPA, Maine DEP, and the public.

The Navy's Proposed Final Remedy

The Navy proposes no further action for soils at Sites 4, 11, and 13. The investigation results from Sites 4 and 13 indicate that contaminants have already migrated from soil into groundwater, and chemicals are not present in soils at concentrations that pose a risk. With the removal of drums and soils at Site 11, the remaining soil concentrations do not pose a risk to groundwater. Remediation of the Eastern Plume using an active extraction/treatment system will continue, as will the long-term groundwater monitoring program. The Navy will be adding wells to the monitoring program to increase coverage in the area of Sites 4, 11, and 13. The actual number of wells to be added and their locations will be determined in discussions with USEPA and Maine DEP.

In the event that Building 584 is demolished, the Navy will evaluate the need for additional investigations at Site 4.

At least once every five years, the Navy will perform a thorough evaluation of the progress of the remedial action. Based on this evaluation, the Navy may propose modifications to the final remedy. Possible revisions could include changes to the location and/or number of extraction wells, modifications to the long-term monitoring program, changes to the treatment plant configuration, and/or termination of the groundwater treatment system. All proposed changes will be reviewed by USEPA, Maine DEP, and the public, and all comments received by the Navy will be addressed, prior to implementing any changes to the approved plan.

The Public's Role in Alternative Selection

Community input is integral to the selection process. The Navy and regulatory agencies will consider all comments in selecting the remedial action prior to signing the ROD. The public is encouraged to participate in the decision-making process.

This Proposed Plan for Sites 4, 11, and 13 is available for review, along with supplemental documentation, at the:

☞ Curtis Memorial Library
23 Pleasant Street
Brunswick, Maine 04011
(207) 725-5242

☞ Hours:
Monday & Wednesday: 9:30am - 8:00pm
Thursday & Friday: 9:30am - 6:00pm
Saturday: 9:30am - 5:00pm

For further information, please contact:

☞ John James
Public Affairs Office
Naval Air Station Brunswick
Brunswick, Maine 04011
(207) 921-2527

☞ Robert Lim
Remedial Project Manager
U.S. Environmental Protection Agency
JFK Federal Building (HBT)
Boston, Massachusetts 02203-2211
(617) 223-5521

☞ Nancy Beardsley
Department of Environmental Protection
Bureau of Remediation and Waste Management
State House Station #17
Augusta, Maine 04333
(207) 287-7713

Glossary of Technical Terms

Feasibility study: A report that summarizes the development and analysis of remedial alternatives.

Groundwater: Water found beneath the earth's surface that fills pores in soil and bedrock to the point of saturation. Groundwater may transport substances that have percolated downward from the ground surface as it flows toward its point of discharge.

Interim Remedial Action: An option evaluated to address the source or migration of contaminants at a Superfund site to control or prevent further migration. This action is not intended to be the final remedy for the site, but must be consistent with the ultimate remedy chosen.

National Priorities List (NPL): USEPA's list used to prioritize uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund.

Operable Unit: The clean-up of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. Operable units may address geographical portions, specific site problems, initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but are located in different parts of a site.

Plume: A generally continuous area of groundwater that contains substances that originated from a source area, such as a leaking tank or disposal pit.

Record of Decision (ROD): A public document that explains the clean-up alternative to be used at a National Priorities List (NPL) site. The ROD is based on information and technical analysis generated during the Remedial Investigation/Feasibility Study (RI/FS) and on consideration of the public comments and community concerns.

Remedial Investigation (RI): The Remedial Investigation determines the nature and extent and composition of contamination at a hazardous waste site, and directs the types of clean-up options that are developed in the Feasibility Study.

Remedial Action: The actual construction or implementation phase of a site cleanup that follows the design phase.

Remediate: Take the actions necessary to protect human health and the environment.

Responsiveness Summary: This document presents a summary of the written and oral comments made by the public and the responses to those comments. The Responsiveness Summary is a required component of the ROD.

Risk Assessment: Evaluation and estimation of the current and future potential for adverse human health or environmental effects from exposure to contaminants.

Source: Area at a hazardous waste site from which contamination originates.

Volatile Organic Compounds (VOCs): A group of chemical compounds composed primarily of carbon and hydrogen that are characterized by their tendency to evaporate (or volatilize) into the air from water or soil. VOCs include substances that are contained in common solvents and cleaning fluids. Some VOCs are believed to cause cancer.

Naval Air Station Brunswick